A3: Simulation Methods

Simulation consists on building computer models that describe the essential behavior of a system of interest and designing and conducting experiments with such models in order to draw conclusions from their results in order to support decision-making. Typically, it is used in the analysis of such complex systems, so it is not possible to make an analytical analysis, or on the basis of a numerical analysis. Nowadays, simulation is a fundamental experimental methodology in fields as diverse as economics, statistics, computer science, chemical engineering, ecology and physics, with huge industrial and commercial applications, ranging from manufacturing systems to flight simulators, through computer games, stock prediction and weather forecasting.

In the subject we will show multiple applications in Artificial Intelligence, especially in the discipline of Decision Analysis.